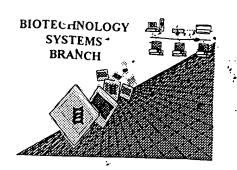
## RAW SEQUENCE LISTING ERROR REPORT



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable

| Application Serial Number | : 09/756,481 |
|---------------------------|--------------|
| Source:                   | OIPE         |
| Date Processed by STIC:   | 08/16/2001   |

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS. PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,

TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216. PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax) PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

## Checker Version 3.0

The Checker Version 3.0 application is a state-of the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST 25

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2Kcompliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address: http://www.uspto.gov/web/offices/pac/checker

OIPE

RAW SEQUENCE LISTING DATE: 08/16/2001 PATENT APPLICATION: US/09/756,481 TIME: 12:57:56

Input Set : A:\47506seq.txt

Output Set: N:\CRF3\08162001\1756481.raw

|    | 3<br>4<br>5 | <110>  | Mic  | chae: | ANT:<br>l Ja:<br>enda! | rpe   | k Ma: | rchi  | onni  |       |      |       |      |             |       |                 | Cerred         | Does Not Comply<br>Cted Diskette Need       | 369  |
|----|-------------|--|------|-------|------------------------|-------|-------|-------|-------|-------|------|-------|------|-------------|-------|-----------------|----------------|---|------|
|    | 8           | <120>  | INJ  | URII  | ES AI                  | ND D  | ISORI | DERS  |       |       | R TR | EATI: | NG N | EURO:       | LOGI  | CAL             |                |   |      |
|    |             | <130><br><140>   |      |       |                        |       |       |       | •     | •     | /756 | 4.81  |      |             |       |                 |                |   |      |
|    |             | <141>  |      |       |                        |       |       |       |       |       |      | , 401 |      |             |       |                 | 1              | Daga Nation 1                               |      |
|    |             | <150>  |      |       |                        |       |       |       |       |       |      | /151  | 06   |             |       |                 | Came           | Does Not Comply                             |      |
|    | 16          | <151>  | PRI  | OR I  | FILII                  | NG DA | ATE:  | 1999  | 9-07  | -02   |      |       |      |             |       |                 | Gerre          | ected Diskette Need                         | der! |
|    |             | <150>  |      |       |                        |       |       |       |       | •     | 91,7 | 91    |      |             |       |                 | •              |   |      |
|    |             | <151>  |      |       |                        |       |       |       |       | -06   |      |       |      |             |       |                 |                |   |      |
|    |             | <160>  |      |       |                        |       |       |       |       |       |      |       | 2 0  |             |       |                 |                |   |      |
|    |             | <170>  |      |       |                        |       | SEQ 1 | tor \ | vindo | ows ' |      |       |      |             | -     |                 |                |   |      |
|    |             | <210><211>   |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 |                | esponse of<br>equince requir<br>or field 22 |      |
|    |             | <211>  |      |       |                        | ۱     |       |       |       |       |      |       |      | _0          | V-51  | $(\mathcal{L}:$ | 213 5          | esponse                                     | u    |
|    |             | <213>  |      |       |                        | Artii | ficia | al Se | eanei | nce . | >    | e ri  | 012  | יסי         | À.    | tibe            | ينسل ك         | equence to from                             | ,    |
|    |             | <220>  |      |       |                        | _     |       |       |       |       |      |       |      |             | iav   | ما ما           | cription       | -m field 22                                 | 7.   |
|    | 31          | <221>  | NAM  | IE/KI | EY: (                  | CDS   |       |       |       |       |      |       |      |             | 0-    | aces            |                |   |      |
|    | 32          | <222>  | LOC  | CATIO | ON:                    | (218) | ) (   | (128) | 345   |       |      |       |      |             |       |                 | •              |   |      |
| M> |             | <223>  |      |       |                        |       | IOM:  |       |       |       |      |       |      |             |       |                 |                |   |      |
|    | 34          | 4 <400> SEQUENCE: 1 5 cccttctcca gggactctgg ctgccagcag ctccgccttt cagatcaatt ctcgaccacc 60 |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 |                |   |      |
|    | 35          |  |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 |                | 60 .  |      |
|    |             |  |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 | cccct          | 120   |      |
|    |             |  |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 | cagtgg         | 180   |      |
|    | 38<br>39    | gete   | eget | .ga c | SLCL                   | suuge | ja Co | acct  | ccrae | y ga  | ggaa |       |      |             | -     | -               | c cat<br>s His | 235   |      |
|    | 40          |  |      |       |                        |       |       |       |       |       |      | 1     | с пе | ı PI        | J va. | 1 Cy.<br>5      | 5 HIS          |   |      |
|    | 42          | cgt  | ttt  | tac   | gac                    | cac   | ctc   | ctc   | ctc   | cta   | ctc  | _     | cta  | ccc         | t.ca  | _               | acc            | 283   |      |
|    | 43          | Arg  |      |       |                        |       |       |       |       | _     |      | _     | _    |             | -     | _               |                |   |      |
|    | 44          | -  |      | _     | 10                     |       |       |       |       | 15    |      |       |      |             | 20    |                 |                |   |      |
|    | 46          | ctg  | gcc  | ccc   | gcg                    | cca   | gca   | tcc   | atg   | ggc   | ccc  | gct   | gcc  | gcc         | ctg   | ctc             | cag            | 331   |      |
|    | 47          | Leu  | Ala  |       | Ala                    | Pro   | Ala   | Ser   |       | Gly   | Pro  | Ala   | Ala  |             | Leu   | Leu             | Gln            |   |      |
|    | 48          |  |      | 25    |                        |       | •     |       | 30    |       |      |       |      | 35          |       |                 |                |   |      |
|    | 50          | gtt  |      |       |                        |       | _     |       |       |       | _    | -     |      |             |       | -               |                | 379   |      |
|    | 51          | Val :  |      | GTA   | Leu                    | Pro   | GLu   |       | Pro   | Arg   | Ser  | Val   |      | Thr         | His   | Arg             | Pro            |   |      |
|    | 52<br>53    | gtg  | 40   | aat   | ata                    | a t a | + ~ ~ | 45    | a+ a  | ++0   | cat  | 000   | 50   | <b>43.0</b> | 000   | ~~~             | ~~~            | 427   |      |
|    | 54          | Val 1  |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 |                | 42/   |      |
|    | 55          | 55   | 1.0  | 110   | <b>741</b>             | 1100  | 60    | 9     | пси   | 1 110 | nrg  | 65    | n.y  | nsp         | 110   | GIII            | 70             |   |      |
|    | 57          | gcc a  | aqa  | qta   | qqa                    | cqc   |       | cta   | cqa   | cca   | tac  |       | ata  | σaσ         | qaa   | cta             |                | 475   |      |
|    | 58          | Ala  |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 |                | 2 · ·                                       |      |
|    | 59          |  | -    |       | -                      | 75    |       |       |       |       | 80   |       |      |             |       | 85              | -              |   |      |
|    | 61          | gtc  |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 |                | 523   |      |
|    | 62          | Val A  | Ala  | Gly   |                        | Ile   | Val   | Arg   | His   |       | Pro  | Asp   | Ser  | Gly         |       | Ser             | Ser            |   |      |
|    | 63          |  |      |       | 90                     |       |       |       |       | 95    |      |       |      |             | 100   |                 |                |   |      |
|    |             |  |      |       |                        |       |       |       |       |       |      |       |      |             |       |                 |                |   |      |

The types of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

RAW SEQUENCE LISTING DATE: 08/16/2001 PATENT APPLICATION: US/09/756,481 TIME: 12:57:56

Input Set : A:\47506seq.txt

Output Set: N:\CRF3\08162001\I756481.raw

| 65<br>66                                      |  |                          | gca<br>Ala               |  |   | -   |   | Thr                                    | _  |   | _   | _   | Pro                                    |   |  |   | 571          |
|---|--|--------------------------|--------------------------|--|---|---|---|--|--|---|---|---|--|---|--|---|--------------|
| 67<br>69<br>70                                | -                                      | Val                      | 105<br>ttt<br>Phe        | -  | _   | _   | Asn   |  |  |   |   |   | _                                      |   |  | _   | 619          |
| 71<br>73<br>74                                | Ala                                    |                          | tta<br>Leu               |  |   | Arg   |   |  |  |   | Cys   | Glu   |  |   |  | Gly   | 667          |
| 75<br>77<br>78<br>79                          |  |                          | cta<br>Leu               |  |   |   |   |  |  |   |   | gag   |  |   |  |   | 715          |
| 81<br>82<br>83                                |  |                          | ctg<br>Leu               |  | gtg   |   |   |  |  | ggg   |   |   |  |   | gca                                    |   | 763          |
| 85<br>86<br>87                                |  |                          | ggg<br>Gly<br>185        | act  |   |   | Ala   |  | aac  |   |   |   |  | tgt   |  |   | 811          |
| 89<br>90<br>91                                | _                                      | _                        | gcg<br>Ala               | _  |   | _   |   |  |  | _   |   | _   | _                                      | _   |  | _   | 859          |
| 93<br>94<br>95                                |  |                          | gag<br>Glu               |  |   |   |   |  |  |   |   |   |  |   |  |   | 907          |
| 97<br>98<br>99                                |  |                          | ccg<br>Pro               |  |   |   |   |  |  |   |   |   |  |   |  |   | 955          |
| 101<br>102<br>103                             |  |                          | ggc<br>Gly               |  | Cys   |   |   |  |  | Leu   |   |   | _                                      |   | Arg                                    | gag<br>Glu                                    | 1003         |
| 105<br>106<br>107                             |  |                          | tgg<br>Trp<br>265        | His  | _   |   |   |  |  | _   | _   |   |  | Leu   | =                                      |   | 1051         |
| 109<br>110<br>111                             |  |                          | cag<br>Gln               |  |   |   |   |  |  |   |   |   |  |   |  |   | 1099         |
|   |  | 280                      | )                        | _  |   | -   | 285   |  | FIO  | Glu   | Thr   | Leu<br>290                                    | _                                      | СТУ   | 110                                    | 1   |              |
| 113<br>114<br>115                             |  | ccg<br>Pro               | cct<br>Pro               | gca  | ctc   | aac   | 285<br>cac<br>His                             | gct                                    | gtg  | ctg   | cgc   | 290<br>gcg<br>Ala                             | ctc                                    | atg   | cac                                    | gca   | 1147         |
| 114   | Gly<br>295<br>gct                      | ecg<br>Pro               | cct                      | gca<br>Ala   | ctc<br>Leu                                    | aac<br>Asn<br>300<br>ggt<br>Gly               | 285<br>cac<br>His                             | gct<br>Ala<br>ggc                      | gtg<br>Val   | ctg<br>Leu                                    | cgc<br>Arg<br>305<br>tgc                      | 290<br>gcg<br>Ala                             | ctc<br>Leu                             | atg<br>Met  | cac<br>His                             | gca<br>Ala<br>310<br>cgt<br>Arg               | 1147<br>1195 |
| 114<br>115<br>117<br>118                      | Gly<br>295<br>gct<br>Ala               | gct<br>Ala               | cct<br>Pro               | gca<br>Ala<br>acc<br>Thr                             | ctc<br>Leu<br>ccg<br>Pro<br>315               | aac<br>Asn<br>300<br>ggt<br>Gly               | 285<br>cac<br>His<br>gca<br>Ala               | gct<br>Ala<br>ggc<br>Gly               | gtg<br>Val<br>tcg<br>Ser                             | ctg<br>Leu<br>ccc<br>Pro<br>320<br>gac        | a cgc<br>Arg<br>305<br>tgc<br>Cys             | 290<br>gcg<br>Ala<br>tgc<br>Cys               | ctc<br>Leu<br>gtg<br>Val               | atg<br>Met<br>cca<br>Pro                                    | cac<br>His<br>gag<br>Glu<br>325<br>gtg | gca<br>Ala<br>310<br>cgt<br>Arg               |              |
| 114<br>115<br>117<br>118<br>119<br>121<br>122 | Gly<br>295<br>gct<br>Ala<br>cta<br>Leu | gct<br>Ala<br>tca<br>Ser | cct<br>Pro<br>ccc<br>Pro | gca<br>Ala<br>acc<br>Thr<br>atc<br>Ile<br>330<br>tac | ctc<br>Leu<br>ccg<br>Pro<br>315<br>tcc<br>Ser | aac<br>Asn<br>300<br>ggt<br>Gly<br>gtg<br>Val | 285<br>cac<br>His<br>gca<br>Ala<br>ctc<br>Leu | gct<br>Ala<br>ggc<br>Gly<br>ttc<br>Phe | gtg<br>Val<br>tcg<br>Ser<br>ttc<br>Phe<br>335<br>gtg | ctg<br>Leu<br>ccc<br>Pro<br>320<br>gac<br>Asp | cgc<br>Arg<br>305<br>tgc<br>Cys<br>aat<br>Asn | 290<br>gcg<br>Ala<br>tgc<br>Cys<br>agt<br>Ser | ctc<br>Leu<br>gtg<br>Val<br>gac<br>Asp | atg<br>Met<br>cca<br>Pro<br>aac<br>Asn<br>340<br>tgc<br>Cys | gag<br>Glu<br>325<br>gtg<br>Val        | gca<br>Ala<br>310<br>cgt<br>Arg<br>gtc<br>Val | 1195         |

RAW SEQUENCE LISTING DATE: 08/16/2001
PATENT APPLICATION: US/09/756,481 TIME: 12:57:56

Input Set : A:\47506seq.txt

Output Set: N:\CRF3\08162001\I756481.raw

```
130 tgttttattg gtgacaaaaa gcttaaaaca aatttgact
                                                                               1387
     132 <210> SEQ ID NO: 2
     133 <211> LENGTH: 357
     134 <212> TYPE: PRT
     135 <213> ORGANISM: Artificial Sequence
W--> 137 <220> FEATURE:
W--> 137 <223> OTHER INFORMATION:
     137 <400> SEQUENCE: 2
     138 Met Leu Pro Val Cys His Arg Phe Cys Asp His Leu Leu Leu Leu Leu
     140
         Leu Leu Pro Ser Thr Thr Leu Ala Pro Ala Pro Ala Ser Met Gly Pro
     141
     142
          Ala Ala Leu Leu Gln Val Leu Gly Leu Pro Glu Ala Pro Arg Ser
     143
     144
         Val Pro Thr His Arg Pro Val Pro Pro Val Met Trp Arg Leu Phe Arg
     145
                                  55
         Arg Arg Asp Pro Gln Glu Ala Arg Val Gly Arg Pro Leu Arg Pro Cys
     146
     147
                              70
                                                  75
         His Val Glu Glu Leu Gly Val Ala Gly Asn Ile Val Arg His Ile Pro
     148
     149
     150
          Asp Ser Gly Leu Ser Ser Arg Pro Ala Gln Pro Ala Arg Thr Ser Gly
     151
                      100
                                          105
     152
          Leu Cys Pro Glu Trp Thr Val Val Phe Asp Leu Ser Asn Val Glu Pro
     153
                                      120
     154
          Thr Glu Arg Pro Thr Arg Ala Arg Leu Glu Leu Arg Leu Glu Ala Glu
     155
                                  135
     157
          Cys Glu Asp Thr Gly Gly Trp Glu Leu Ser Val Ala Leu Trp Ala Asp
     158
                              150
                                                  155
     159
         Ala Glu His Pro Gly Pro Glu Leu Leu Arg Val Pro Ala Pro Pro Gly
     160
                          165
                                              170
     161
         Val Leu Leu Arg Ala Asp Leu Leu Gly Thr Ala Val Ala Ala Asn Ala
     162
                                          185
          Ser Val Pro Cys Thr Val Arg Leu Ala Leu Ser Leu His Pro Gly Ala
     163
     164
                                      200
     165
          Thr Ala Ala Cys Gly Arg Leu Ala Glu Ala Ser Leu Leu Val Thr
     166
                                  215
                                                      220
    167
         Leu Asp Pro Arg Leu Cys Pro Leu Pro Arg Leu Arg Arg His Thr Glu
     168
                              230
                                                  235
     169
         Pro Arg Val Glu Val Gly Pro Val Gly Thr Cys Arg Thr Arg Arg Leu
     170
                          245
                                              250
     171
         His Val Ser Phe Arg Glu Val Gly Trp His Arg Trp Val Ile Ala Pro
     172
                                          265
    173
         Arg Gly Phe Leu Ala Asn Phe Cys Gln Gly Thr Cys Ala Leu Pro Glu
    174
                                      280
    175
         Thr Leu Arg Gly Pro Gly Gly Pro Pro Ala Leu Asn His Ala Val Leu
    176
                                  295
    177
         Arg Ala Leu Met His Ala Ala Ala Pro Thr Pro Gly Ala Gly Ser Pro
     178
                              310
                                                  315
         Cys Cys Val Pro Glu Arg Leu Ser Pro Ile Ser Val Leu Phe Phe Asp
```

RAW SEQUENCE LISTING

DATE: 08/16/2001

PATENT APPLICATION: US/09/756,481

TIME: 12:57:56

Input Set : A:\47506seq.txt

Output Set: N:\CRF3\08162001\I756481.raw

| 180 |     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 181 | Asn | Ser | Asp | Asn | Val | Val | Leu | Arg | His | Tyr | Glu | Asp | Met | Val | Val | Asp |  |
| 182 |     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| 183 | Glu | Cys | Gly | Cys | Arg |     |     |     |     |     |     |     |     |     |     |     |  |
| 184 |     |     | 355 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

VERIFICATION SUMMARY

DATE: 08/16/2001

PATENT APPLICATION: US/09/756,481

TIME: 12:57:57

Input Set : A:\47506seq.txt

Output Set: N:\CRF3\08162001\I756481.raw

L:34 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION:

L:137 M:258 W: Mandatory Feature missing, <220> FEATURE:

L:137 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: